

Patent Claims:

1. A device for reducing the peak power of a pulsed laser light source, in particular for a projection exposure system, there being arranged in the beam path of the pulsed laser light source at least one beam splitter apparatus by means of which at least one detour line for at least one partial beam is produced via reflecting components, wherein there is arranged in the beam path (1) a beam recombining element (9) in or on which the partial beams (1a, 10a, 1b, 10b) are reunited to form a total beam.
2. The device as claimed in claim 1, wherein the detour line (5 or 11) has a length such that an optical path difference of more than 0.5 m is produced between the partial beams (1a, 1b or 10a, 10b).
3. The device as claimed in claim 1, wherein at least three reflecting components (6, 7, 8 or 12, 13, 14) form a detour line (5 or 11).
4. The device as claimed in claim 1, wherein for polarized laser beams the beam splitter apparatus has a mirror (3 or 4) which is arranged at an angle to the beam path (1).
5. The device as claimed in claim 4, wherein the angle is between 35 and 50°. *Optimum value*
6. The device as claimed in claim 5, wherein the Brewster angle is provided as the angle. *obv*
7. The device as claimed in claim 1, wherein the reflecting components are constructed as mirrors (6, 7, 8 or 12, 13, 14).
8. The device as claimed in claim 1, wherein two detour lines (5, 11) are arranged in series in the beam path (1).
9. The device as claimed in claim 8, wherein a first detour line (5) has a length of over 2 m, and a second detour line (11) has a length of over 10 m. *Optimization*
10. The device as claimed in claim 1, wherein an easily detuned Kepler telescope (16a, 16b) is arranged in the detour line or lines (5, 11).

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11. The device as claimed in claim 1, wherein the beam recombining element (9, 15) is constructed such that a portion of the partial beam (1b or 10b) which has run via the detour line (5 or 11) is repeatedly sent via the detour line (5 or 11).

12. The device as claimed in claim 11, wherein at least one phase-retarding plate (21, 22) is arranged in the beam path.

13. The device as claimed in claim 12, wherein a phase-retarding plate (21) is arranged in the beam path (1) upstream of the beam splitter apparatus (3), and at least one further phase-retarding plate (22) is arranged in the detour line (5).

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